

REMARKS

Reconsideration of the application is respectfully requested for the following reasons:

1. Amendments to Claims

The claims have been amended to correct very minor grammatical and idiomatic errors, including those noted in item 1 on page 2 of the Official Action.

In addition, claim 1 has been amended to include the limitations of claims 2 and 3, namely the provision of positioning pins and positioning holes in the clamping sheets, and the inclusion of clamping members on the clamping sheets to fixedly clamp them together, and the dependency of the remaining claims has been revised to account for the cancellation of claims 2 and 3.

Because the changes are all formal in nature, it is respectfully submitted that the changes do not involve new matter.

2. Rejection of Claims 1-11 Under 35 USC §102(b) in view of PCT Publication No. WO 98/52031 (Lang)

This rejection is respectfully traversed on the grounds that the Lang patent fails to disclose or suggest at least the following positively recited features of the claimed invention:

- a. carriers including positioning pins, positioning holes, sockets, and clamping members for relatively positioning and clamping the respective clamping sheets of the carriers (instead, Lang discloses “pre-cast” gel cassettes made up of sheets 20 and 22 clamped by separate pivotal side clamps 14 shown in Figs. 2B, 3, and 4 of the Lang publication, with no positioning pins or positioning holes), as recited in claim 1;
- b. both a “bottom blocking piece” *and* “blocking sheets” inserted into slots in the receiving tank and notches in the carrier (instead, Lang discloses a pivotal “bottom edge sealing mechanism” 16 that is neither inserted into slots in a “receiving tank” or frame, or

notches in the carrier, and does not include both a blocking piece *and* blocking sheets, also as recited in claim 1;

- c. a receiving tank that supports two carriers, as recited in claim 1 (the frame 12 shown in Fig. 1A of the Lang publication only supports a single carrier);
- d. an elastic sheet as recited in claims 4 and 5 (Lang discloses a glass or plastic spacer 24 with no suggestion of elasticity); and
- e. a convex grasp portion and finger hole on one of the clamping sheets, as recited in claims 6 and 7 (the sheets 20 and 22 of Lang do not appear to have any grasping structures and are held together by external clamps making grasping in the claimed manner unlikely)

The claimed pins, holes, sockets and clamping members of individual carriers referred to in difference (a), above, are best illustrated in Fig. 11 as elements 311, 321, 312, and 322. These elements are used both to mutually align and relatively position clamping sheets 31 and 32, and to provide an integral clamping mechanism that easily accommodates different gel/comb thicknesses while distributing the clamping forces and eliminating the need to adjust individual screws.

The Lang publication discloses none of these elements. Instead of positioning members and integral clamps, Lang discloses a “pre-cast or handcast gel cassette” 18 that consists of two “rectangular plates” 20,22 (see page 11, lines 1-25 of the Lang publication). **Plates 20,22 of Lang include none of the positioning pins, holes, or sockets of the claimed clamping plates, and further are externally clamped by external side clamps 14 with screws 64.**

As a result, the carriers of Lang are analogous to the carriers shown in Figs. 1-3, with all of the attendant problems with alignment, clamping tolerances, and the need to adjust individual screws. This is a fundamental structural and functional difference between the claimed invention and the electrophoresis device disclosed in the Lang publication, and therefore the Lang publication cannot be said to “anticipate” the invention recited in claim 1.

Difference (b) refers to the cooperative relationship between the claimed blocking piece (element 44 best shown in Fig. 13) and the blocking sheets, which fit through notches 323 in the carriers and slots 41 in the receiving tank (see Fig. 4). While the receiving tank 4 arguably corresponds to frame 12 of Lang, no part of Lang's pivotal "bottom edge sealing mechanism" extends through slots in the frame or "tank," much less through slots in the tank *and* notches in the carrier, as claimed.

The claimed arrangement is extremely simple (blocking piece in tank and removable blocking sheets) and yet seals and secures the carrier while at the same time permitting easy unblocking of the carriers and tank in preparation for electrophoresis, *after* the gel has been cast and without the need to remove the carriers from the tank. In contrast, Lang's pivoting arrangement requires access to the carrier, removal of the frame after casting, does not secure the carrier, and is much more complex. This is also a fundamental structural and functional difference between the claimed invention and the electrophoresis device disclosed in the Lang publication, and provides another reason why the Lang publication cannot be said to "anticipate" the invention recited in claim 1.

Limitations c, d, and e mentioned above are also not disclosed in the Lang publication. Lang discloses a "separator" 24 which could be glass or plastic, and which is not disclosed as being elastic (the inclusion of glass actually suggests inelasticity), while the plates of Lang clearly do not include grasping elements, and the frame 12 of Lang only accommodates one carrier, thereby providing further grounds for distinguishing the device disclosed in the Lang publication from the claimed invention.

Because the Lang publication does not disclose all elements recited in the claims corresponding to original claims 1-11, withdrawal of the rejection under 35 USC §102(b) is respectfully requested.

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Having thus overcome the sole rejection made in the Official Action, withdrawal of the rejections and expedited passage of the application to issue is requested.

Respectfully submitted,

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